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(FILE 'HOME' ENTERED AT 11:58:10 ON 10 NOV 2003)

FILE 'REGISTRY' ENTERED AT 12:01:06 ON 10 NOV 2003 1846 SEA (BA AND CO AND FE AND O)/ELF L161 SEA (BI AND O)/ELF AND (2/ELC.SUB) L2349 SEA (V AND O)/ELF AND (2/ELC.SUB) L3 37 SEA (PB AND O)/ELF AND (2/ELC.SUB) L469 SEA (B AND O)/ELF AND (2/ELC.SUB) L5 21 SEA (LI AND F)/ELF AND (2/ELC.SUB) L6 10 SEA (CA AND F)/ELF AND (2/ELC.SUB) FILE 'CAPLUS' ENTERED AT 12:06:36 ON 10 NOV 2003 32769 SEA L2 OR L3 OR L4 OR L5 OR L6 OR L7 L8

36 SEA L1 AND L8

D 1-36 IALL

## FILE HOME

L9

## FILE REGISTRY

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 9 NOV 2003 HIGHEST RN 614715-63-8 DICTIONARY FILE UPDATES: 9 NOV 2003 HIGHEST RN 614715-63-8

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details: http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

## FILE CAPLUS

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FILE COVERS 1907 - 10 Nov 2003 VOL 139 ISS 20 FILE LAST UPDATED: 9 Nov 2003 (20031109/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

ANSWER 19 OF 36 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2000:280290 CAPLUS

DOCUMENT NUMBER: 132:267137

TITLE: Manufacture of planar hexagonal ferrite by

modification of oxide at low-sintering temperature
Zhang, Hongguo; Zhang, Yaoxi; Zhou, Ji; Yue, Zhenxin;

INVENTOR(S): Zhang, Hongguo; Zhang, Gui, Zhilun; Li, Longtu

PATENT ASSIGNEE(S): Qinghua University, Peop. Rep. China

SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 6 pp.

CODEN: CNXXEV

DOCUMENT TYPE: Patent LANGUAGE: Chinese

INT. PATENT CLASSIF.:

7

MAIN: C01G049-02 SECONDARY: H01F001-10

CLASSIFICATION: 49-3 (Industrial Inorganic Chemicals)

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE

CN 1208020 A 19990217 CN 1998-117800 19980918

PRIORITY APPLN. INFO.: CN 1998-117800 19980918

ABSTRACT:
The low-temp. sintered planar hexagonal ferrite (Co2-x-yZnxCuy)Fe24-.delta.O41

The low-temp. sintered planar hexagonal ferrite (Co2-x-yZnxCuy)Fe24-.de1ta.041 where 0.ltoreq.x.ltoreq.1, 0.ltoreq.y.ltoreq.0.8, 0.ltoreq..delta..ltoreq.2 is manufd. by modification of pure Co2Z compd. such as Ba3Co2Fe24O41 with CuO, and/or mixt. of CuO and ZnO. The process comprises mixing anal.-grade Fe2O3, Co2O3, BaCO3, CuO and ZnO, ball-milling the mixt. in ethanol for 12-24 h and sieving to <60-120 mesh, heating the mixt. to 1000-1200.degree. at a heating rate of 2-10 .degree.C/min and sintering for 2-5 h to obtain pre-sintered powder, ball-milling the sintered powder in the presence of 0-4% Bi2O3 or V2O5 for 24-72 h; drying and adding 4-7% PVA soln. 6-10%; sieving to <60-120 mesh, granulating and molding, and heating to 800-950.degree. at 2-10 .degree.C/min and sintering for 4-8 h. The ferrites having the formula of Ba3Co1.8CuO.2Fe23.6O41, Ba3Co1.4ZnO.4CuO.2Fe23.6O41, or Ba3Co1.2ZnO.4CuO.4Fe23.6O41 are manufd.

SUPPL. TERM: ferrite planar hexagonal oxide; barium cobalt zinc copper

iron oxide

INDEX TERM: Ferrites

ROLE: IMF (Industrial manufacture); PREP (Preparation)

(planar hexagonal; manuf. of planar hexagonal ferrite by

modification of oxide at low-sintering temp.)

INDEX TERM: 263411-66-1P, Barium cobalt copper iron oxide

(Ba3Co1.8Cu0.2Fe23.6O41) **263411-67-2P**, Barium

cobalt copper iron zinc oxide (Ba3Co1.4Cu0.2Fe23.6Zn0.4O41)

263411-68-3P, Barium cobalt copper iron zinc oxide

(Ba3Co1.2Cu0.4Fe23.6Zn0.4O41)

ROLE: IMF (Industrial manufacture); PREP (Preparation) (manuf. of planar hexagonal ferrite by modification of

oxide at low-sintering temp.)

INDEX TERM: 12009-65-3, Barium cobalt iron oxide (Ba3Co2Fe24O41)

ROLE: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(manuf. of planar hexagonal ferrite by modification of

oxide at low-sintering temp.)

INDEX TERM: 513-77-9, Barium carbonate 1308-04-9, Cobalt oxide Co2O3

1309-37-1, Ferric oxide, reactions

ROLE: RCT (Reactant); TEM (Technical or engineered material

use); RACT (Reactant or reagent); USES (Uses)

(manuf. of planar hexagonal ferrite by modification of

oxide at low-sintering temp.)

INDEX TERM: 1304-76-3, Bismuth oxide Bi203, uses 1314-13-2,

Zinc oxide, uses 1314-62-1, Vanadium oxide V2O5, uses

1317-38-0, Copper oxide CuO, uses

ROLE: TEM (Technical or engineered material use); USES

(Uses)

ANSWER 21 OF 36 CAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1997:475594 CAPLUS

DOCUMENT NUMBER: 127:103361

TITLE: Ceramic magnetic material for microwave use and

high-frequency circuit component using it

INVENTOR(S): Inoue, Osamu; Sato, Toshifumi; Furukawa, Hirotaka; Hiramoto, Masayoshi; Takeuchi, Takayuki; Matsukawa,

ramoto, masayoshi, rakedeni

PATENT ASSIGNEE(S): Matsus

Matsushita Electric Industrial Co., Ltd., Japan

Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent LANGUAGE: Japanese

INT. PATENT CLASSIF.:

7 7

MAIN: H01F001-34

SECONDARY: C01G049-00; C04B035-26 CLASSIFICATION: 77-8 (Magnetic Phenomena)

Section cross-reference(s): 57

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE

JP 09167703 A2 19970624 JP 1995-326779 19951215

PRIORITY APPLN. INFO.: JP 1995-326779 19951215

ABSTRACT:

SOURCE:

In the material, a main magnetic phase is a hexagonal ferrite contg. .gtoreq.1 alk. earth metal, Fe, O, and Pb or Cu. The material may contain 0-10 (.noteq. 0) wt.% V205, CuO, Bi203, MoO3, WO3, and/or PbO as a sub-component. In the material, the main phase may be a hexagonal ferrite contg. .gtoreq.1 alk. earth metal, Fe, and O. The circuit component using the material is also claimed. The ferrite can be sintered at low temp.

SUPPL. TERM:

magnetic ceramic high frequency circuit component; alk earth metal ferrite magnetic ceramic; ceramic magnetic ferrite microwave

INDEX TERM:

Ferrites

ROLE: DEV (Device component use); USES (Uses)

(alk. earth metal-contg.; ferrite ceramic magnetic material with good low-temp. sinterability for

high-frequency circuit component)

INDEX TERM:

Electric filters Microwave devices

(ferrite ceramic magnetic material with good low-temp. sinterability for high-frequency circuit component)

INDEX TERM:

Electric coils

ROLE: DEV (Device component use); USES (Uses)

(ferrite ceramic magnetic material with good low-temp. sinterability for high-frequency circuit component)

INDEX TERM:

Electric circuits

(high-frequency; ferrite ceramic magnetic material with good low-temp. sinterability for high-frequency circuit component)

INDEX TERM:

1304-76-3, Bismuth oxide (Bi2O3), processes

1313-27-5, Molybdenum oxide (MoO3), processes 1314-35-8, Tungsten oxide (WO3), processes 1314-62-1, Vanadium oxide (V2O5), processes 1317-36-8, Lead oxide (PbO), processes

1317-38-0, Copper oxide (CuO), processes

ROLE: DEV (Device component use); MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)

(additive; ferrite ceramic magnetic material with good low-temp. sinterability for high-frequency circuit component)

INDEX TERM:

12009-65-3P, Barium cobalt iron oxide

(Ba3Co2Fe24O41) 12258-58-1P, Barium copper iron oxide (Ba3Cu2Fe24O41) 12777-42-3P, Barium iron lead oxide

192134-33-1P, Barium cobalt iron vanadium oxide 192134-34-2P, Barium bismuth cobalt iron oxide

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192134-35-3P, Barium cobalt iron molybdenum oxide
192134-36-4P, Barium cobalt iron tungsten oxide
192134-37-5P 192134-38-6P
192134-39-7P 192134-40-0P
192134-41-1P 192134-42-2P
192134-43-3P 192134-44-4P
192134-47-7P 192134-49-9P, Barium iron vanadium
       192134-51-3P, Barium bismuth iron oxide
192134-53-5P, Barium iron molybdenum oxide
                                             192134-55-7P,
Barium iron tungsten oxide 192134-56-8P, Barium iron lead
                192134-57-9P, Barium bismuth iron lead
vanadium oxide
       192134-58-0P, Barium iron lead molybdenum oxide
192134-59-1P, Barium iron lead tungsten oxide
192134-60-4P, Barium cobalt iron lead vanadium oxide
192134-61-5P, Barium bismuth cobalt iron lead oxide
192134-62-6P, Barium cobalt iron lead molybdenum
oxide 192134-63-7P, Barium cobalt iron lead
tungsten oxide 192134-64-8P, Barium cobalt copper
iron vanadium oxide 192134-65-9P, Barium bismuth
cobalt copper iron oxide 192134-66-0P
192134-67-1P, Barium cobalt copper iron tungsten
oxide 192134-68-2P 192134-69-3P
192134-70-6P 192134-71-7P
192134-72-8P, Barium cobalt copper iron oxide
(Ba3Co1.9Cu0.1Fe24O41) 192134-73-9P, Barium cobalt
copper iron oxide (Ba3Col.7Cu0.3Fe24O41)
192134-74-0P, Barium cobalt copper iron oxide
(Ba3Co1.5Cu0.5Fe24O41) 192134-75-1P, Barium cobalt
copper iron oxide (Ba3CoCuFe24041) 192134-76-2P,
Barium cobalt copper iron oxide (Ba3Co0.5Cu1.5Fe24O41)
192134-77-3P, Barium cobalt iron lead oxide
(Ba2.9Co2Fe24Pb0.1041) 192134-78-4P, Barium cobalt
copper iron lead oxide (Ba2.9Co1.9Cu0.1Fe24Pb0.1O41)
192134-79-5P, Barium cobalt copper iron lead oxide
(Ba2.9Co1.7Cu0.3Fe24Pb0.1O41) 192134-80-8P, Barium
cobalt copper iron lead oxide (Ba2.9Co1.5Cu0.5Fe24Pb0.1O41)
192134-81-9P, Barium cobalt copper iron lead oxide
(Ba2.9CoCuFe24Pb0.1041) 192134-82-0P, Barium
cobalt copper iron lead oxide (Ba2.9Co0.5Cu1.5Fe24Pb0.1O41)
192134-83-1P, Barium copper iron lead oxide
(Ba2.9Cu2Fe24Pb0.1041) 192134-84-2P, Barium cobalt
iron lead oxide (Ba2.7Co2Fe24Pb0.3O41) 192134-85-3P
  Barium cobalt copper iron lead oxide
(Ba2.7Co1.9Cu0.1Fe24Pb0.3O41) 192134-86-4P, Barium
cobalt copper iron lead oxide (Ba2.7Co1.7Cu0.3Fe24Pb0.3O41)
192134-87-5P, Barium cobalt copper iron lead oxide
(Ba2.7Co1.5Cu0.5Fe24Pb0.3O41) 192134-88-6P, Barium
cobalt copper iron lead oxide (Ba2.7CoCuFe24Pb0.3O41)
192134-89-7P, Barium cobalt copper iron lead oxide
(Ba2.7Co0.5Cu1.5Fe24Pb0.3O41)
                               192134-90-0P, Barium copper
iron lead oxide (Ba2.7Cu2Fe24Pb0.3O41) 192134-91-1P
  Barium cobalt iron lead oxide (Ba2.5Co2Fe24Pb0.5O41)
192134-92-2P, Barium cobalt copper iron lead oxide
(Ba2.5Co1.9Cu0.1Fe24Pb0.5O41) 192134-93-3P, Barium
cobalt copper iron lead oxide (Ba2.5Co1.7Cu0.3Fe24Pb0.5O41)
192134-94-4P, Barium cobalt copper iron lead oxide
(Ba2.5Co1.5Cu0.5Fe24Pb0.5O41) 192134-95-5P, Barium
cobalt copper iron lead oxide (Ba2.5CoCuFe24Pb0.5O41)
192134-96-6P, Barium cobalt copper iron lead oxide
(Ba2.5Co0.5Cu1.5Fe24Pb0.5O41)
                                192134-97-7P, Barium copper
iron lead oxide (Ba2.5Cu2Fe24Pb0.5041) 192134-98-8P
  Barium cobalt iron lead oxide (Ba2Co2Fe24PbO41)
192134-99-9P, Barium cobalt copper iron lead oxide
(Ba2Co1.9Cu0.1Fe24PbO41) 192135-00-5P, Barium
cobalt copper iron lead oxide (Ba2Co1.7Cu0.3Fe24PbO41)
192135-02-7P, Barium cobalt copper iron lead oxide
(Ba2Co1.5Cu0.5Fe24PbO41) 192135-04-9P, Barium
cobalt copper iron lead oxide (Ba2CoCuFe24PbO41)
192135-05-0P, Barium cobalt copper iron lead oxide
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(Ba2Co0.5Cu1.5Fe24Pb041)
                           192135-06-1P, Barium copper iron
lead oxide (Ba2Cu2Fe24PbO41) 192135-07-2P, Barium
cobalt iron lead oxide (Bal.5Co2Fe24Pb1.5O41)
192135-08-3P, Barium cobalt copper iron lead oxide
(Bal.5Col.9Cu0.1Fe24Pbl.5O41) 192135-09-4P, Barium
cobalt copper iron lead oxide (Bal.5Col.7Cu0.3Fe24Pb1.5O41)
192135-10-7P, Barium cobalt copper iron lead oxide
(Bal.5Col.5Cu0.5Fe24Pbl.5O41) 192135-11-8P, Barium
cobalt copper iron lead oxide (Bal.5CoCuFe24Pb1.5O41)
192135-12-9P, Barium cobalt copper iron lead oxide
(Bal.5Co0.5Cul.5Fe24Pbl.5O41) 192135-13-0P, Barium copper
iron lead oxide (Bal.5Cu2Fe24Pb1.5O41) 192135-14-1P
, Barium cobalt iron lead oxide (BaCo2Fe24Pb2041)
192135-15-2P, Barium cobalt copper iron lead oxide
(BaCol.9Cu0.1Fe24Pb2O41) 192135-16-3P, Barium
cobalt copper iron lead oxide (BaCo1.7Cu0.3Fe24Pb2O41)
192135-17-4P, Barium cobalt copper iron lead oxide
(BaCol.5Cu0.5Fe24Pb2O41) 192135-18-5P, Barium
cobalt copper iron lead oxide (BaCoCuFe24Pb2O41)
192135-20-9P, Barium cobalt copper iron lead oxide
(BaCo0.5Cu1.5Fe24Pb2O41) 192135-21-0P, Barium copper iron
lead oxide (BaCu2Fe24Pb2O41) 192135-22-1P, Barium
cobalt iron lead strontium oxide (Ba1.5Co2Fe24PbSr0.5O41)
192135-23-2P 192135-24-3P
192135-25-4P 192135-26-5P
             192135-28-7P, Barium copper iron lead
192135-27-6P
strontium oxide (Bal.5Cu2Fe24PbSr0.5O41)
192135-29-8P, Barium cobalt iron lead strontium
oxide (BaCo2Fe24PbSrO41) 192135-30-1P
192135-31-2P 192135-32-3P
192135-33-4P 192135-34-5P
                            192135-35-6P,
Barium copper iron lead strontium oxide (BaCu2Fe24PbSrO41)
192135-36-7P, Barium cobalt iron lead strontium
oxide (Ba0.5Co2Fe24PbSr1.5O41) 192135-37-8P
192135-38-9P 192135-39-0P
192135-40-3P 192135-41-4P
                            192135-42-5P,
Barium copper iron lead strontium oxide
                         192135-43-6P, Cobalt iron lead
(Ba0.5Cu2Fe24PbSr1.5O41)
                                  192135-44-7P, Cobalt
strontium oxide (Co2Fe24PbSr2O41)
copper iron lead strontium oxide (Co1.9Cu0.1Fe24PbSr2O41)
192135-45-8P, Cobalt copper iron lead strontium oxide
(Co1.7Cu0.3Fe24PbSr2O41)
                          192135-46-9P, Cobalt copper iron
lead strontium oxide (Co1.5Cu0.5Fe24PbSr2O41)
192135-47-0P, Cobalt copper iron lead strontium oxide
                   192135-49-2P, Cobalt copper iron lead
(CoCuFe24PbSr2O41)
strontium oxide (Co0.5Cu1.5Fe24PbSr2O41)
                                           192135-51-6P,
Copper iron lead strontium oxide (Cu2Fe24PbSr2O41)
ROLE: DEV (Device component use); PNU (Preparation,
unclassified); PREP (Preparation); USES (Uses)
   (ferrite ceramic magnetic material with good low-temp.
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sinterability for high-frequency circuit component)

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ANSWER 17 OF 36 CAPLUS COPYRIGHT 2003 ACS on STN

2001:750912 CAPLUS ACCESSION NUMBER:

DOCUMENT NUMBER: 136:30618

Study of low-temperature sintering Z-type hexaferrites TITLE: AUTHOR(S):

Zhang, H. G.; Zhou, J.; Yue, Z. X.; Gui, Z. L.; Li, L.

State Key Lab of New Ceramics and Fine Processing, CORPORATE SOURCE:

Tsinghua University, Beijing, 100084, Peop. Rep. China Proceedings of the China International Conference on

High-Performance Ceramics, 1st, Beijing, China, Oct. 31-Nov. 3, 1998 (1999), Meeting Date 1998, 360-362. Editor(s): Yan, Dongsheng; Guan, Zhenduo. Tsinghua

University Press: Beijing, Peop. Rep. China.

CODEN: 69BWTP

DOCUMENT TYPE: Conference English LANGUAGE:

anal. were carried out by XRD and SEM.

77-3 (Magnetic Phenomena) CLASSIFICATION:

ABSTRACT:

SOURCE:

The compn. of Ba3Coz-x-yZnxCuyFe23-.delta.O41 Z-type hexaferrites was studied. By modifying with CuO, ZnO and doping with suitable amt. of Bi2O3, low-temp. sintered Z-type hexaferrites with excellent magnetic properties can be obtained. The stability range of sintering temp. of this kind of ferrites is narrow, only between 840-950.degree., but its sintering properties, such as porosity, d. and grain size et al. are improved. Micro-structural and morphol.

SUPPL. TERM:

barium cobalt copper zinc hexaferrite; magnetism barium

cobalt copper zinc hexaferrite

INDEX TERM:

Density

Dielectric constant

Grain size

Magnetic permeability

Porosity Sintering

Thermal stability

(properties of barium cobalt copper zinc hexaferrites

sintered at low temps.)

INDEX TERM:

Hexaferrites

ROLE: PRP (Properties); SPN (Synthetic preparation); PREP

(Preparation)

(properties of barium cobalt copper zinc hexaferrites

sintered at low temps.)

INDEX TERM:

1304-76-3, Bismuth oxide (Bi2O3), uses

ROLE: MOA (Modifier or additive use); USES (Uses)

(properties of barium cobalt copper zinc hexaferrites

sintered at low temps.)

INDEX TERM:

379268-81-2DP, Barium cobalt copper iron zinc oxide

(Ba3Co1.4Cu0.2Fe23Zn0.4O41), iron-deficient

379268-82-3DP, Barium cobalt copper iron zinc oxide

(Ba3Co1.4Cu0.4Fe23Zn0.2O41), iron-deficient

ROLE: PEP (Physical, engineering or chemical process); PRP

(Properties); PYP (Physical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)

(properties of barium cobalt copper zinc hexaferrites

sintered at low temps.)

INDEX TERM:

513-77-9, Barium carbonate (BaCO3) 1308-06-1, Cobalt oxide 1309-37-1, Ferric oxide, reactions 1314-13-2, (Co3O4) Zinc oxide (ZnO), reactions 1317-38-0, Cupric oxide,

reactions

ROLE: RCT (Reactant); RACT (Reactant or reagent)

(properties of barium cobalt copper zinc hexaferrites sintered at low temps.)

REFERENCE COUNT:

THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS 7 RECORD.

REFERENCE(S):

- (1) Catherine, J; J Mag Mag and Mat 1992, V104-107, P419
- (2) Collomb, A; Mater Res Bull 1989, V24, P453 CAPLUS
- (3) Denis, A; J Mag Mag and Mat 1990, V83, P413
- (4) Denis, A; J Phys IV France 1997, V7, PC1409
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- (6) Nakamura, T; J Mag Mag Mat 1997, V168, P285 CAPLUS(7) Nicolopoulosi, S; Mat Res Bull 1990, V25, P567